**Topic 1. Characteristics & Classification of living organisms**

**Classification**

**1.2 Concept & use of a Classification system**

* **State that organisms can be classified into groups by the features that they share**
* **Define *species*** - a group of organisms that can reproduce to produce fertile offspring
* **Define and describe the *binomial system* of naming species as an internationally agreed system in which the scientific name of an organism is made up of two parts showing the genus and species**
* **Explain that classification systems aim to reflect evolutionary relationships**
* **Explain that classification is traditionally based on studies of morphology and anatomy**
* **Explain that the sequences of bases in DNA and of amino acids in proteins are used as a more accurate means of classification**
* **Explain that organisms which share a more recent ancestor (are more closely related) have base sequences in DNA that are more similar than those that share only a distant ancestor**

* **List the features in the cells of all living organisms, limited to** cytoplasm, cell membrane, DNA as genetic material, ribosomes for protein synthesis and enzymes involved in respiration

**1.3 Features of Organisms**

* **List the main features used to place all organisms into one of the five kingdoms: Animal, Plant, Fungus, Prokaryote, Protoctist**
* **List the features of viruses, limited to protein coat and genetic material**
* **List the main features used to place organisms into groups within the animal kingdom, limited to:**

**– the main groups of vertebrates: mammals, birds, reptiles, amphibians, fish**

**– the main groups of arthropods: myriapods, insects, arachnids, crustaceans**

* **List the main features used to place organisms into groups within the plant kingdom, limited to ferns and flowering plants (dicotyledons and monocotyledons)**

**1.4 Dichotomous Keys**

* **Construct and use simple dichotomous keys based on easily identifiable features**